

# Vantopia Kit Installation Instructions

Rev 4-23-23

Model: Ford Transit High Roof

## Step 1 - Vehicle Prep

[Youtube Video](#)

One person min

- a. Tools
  - i. T45 torx bit
  - ii. Impact wrench if older van
  - iii. Ratchet if newer van without rust
  - iv. Anti-seize if older van with rust
  - v. 7/16-20 Regular tap if older van with rust or new van with painted mounting holes
- b. Procedure
  - i. Remove the electrical conduit covering the wire harness
    - 1. Pull hard on the plastic channel until the anchors release
  - ii. Discard channel pieces and anchors
  - iii. Remove and seat belt anchors in walls
  - iv. Check holds for paint/rust
    - 1. Clean out holes using a 7/16 tap
    - 2. Apply anti-seize to holds
  - v. Sweep out the floor area and check for any modifications or damage
- c. Tips and tricks
  - i. Check to see that tap easily threads into wall mounting holes used for floor bolts.
    - 1. If easy no need to tap and add anti-seize

## 2. Step 2 - Vent Install

[Youtube Video](#)

Two person minimum

**Warning:** This step requires using a ladder and climbing onto the roof of a van. Having a second set of hands to help stabilize a ladder and assist is strongly advised.

**Warning:** Safety glasses are critical for this step as there are chips of metal produced. You do not want a fragment of metal in your eye.

- a. Tools
  - i. Hammer
  - ii. Drill
  - iii. Step bit up to 1"
  - iv. Center punch

- v. Measuring tape
- vi. Saw for metal - jig saw or Sawzall
- vii. Metal cutting blade for the saw
- viii. Caulking gun
- ix. Safety glasses
- x. Gloves
- a. Hardware
  - i. Vent Template from vantopia
  - ii. Max air vent or equivalent - provided by the customer
  - iii. Butyl tape or equivalent - provided by the customer
  - iv. Sikaflex or equivalent - provided by the customer
  - v. Rustoleum paint or equivalent - provided by the customer
- b. Procedure
  - i. Measure the hole center point using a tape measure
    - 1. Find the centerline of the vehicle by measuring between fixed points(find two screw holes that are symmetric across the centerline of the vehicle)
    - 2. Place template and confirm no interference with van ribs or structural members
    - 3. Once the template is centered and parallel to the van ribs, mark the center hole with a marker
    - 4. Drill this hole using a step bit
      - a. Use a center punch to mark the center point of the position
    - 5. Once the hole is drilled, move to the top of the vehicle and align the template with the newly created hole
      - a. Make sure the template is parallel to the known rib
    - 6. Mark the corners of the vent template with a marker
    - 7. Drill these 4 points with a step bit
      - a. Make sure to place the bit inside the square, not on the exact corner
    - 8. Use a jig saw to cut the lines between the 4 holes just drilled
    - 9. Place the vent in the newly created square hole
      - a. Check for fit and any interference
      - b. If interference use a jigsaw to cut away
    - 10. Use butyl tape to build up flat bedding area under the vent
      - a. Bring up to the height of the ribs or protruding elements
    - 11. Apply Sikaflex or equivalent to this bedding
      - a. Similar to putting the icing on a cake
      - b. Use a liberal amount of sealant (up to 1.5 tubes per vent is acceptable)
    - 12. Place vent on bedding with sealant
      - a. Make sure the vent is oriented correctly, and wires aren't trapped in sealant/bedding.

- b. Screw the provided screws around the perimeter using a drill with Philips bit.
  - c. Screw it until sealant appears to squeeze out from under the rim
- 13. Apply another layer of adhesive around the perimeter
- 14. Apply dabs of adhesive to each fastener
  - a. Add about as much volume as a Hershey Kiss chocolate per fastener (It may seem like a lot, but its common practice)
- b. Tips and tricks
  - i. make sure to check the orientation of the vent before installing
    - 1. The vent hinge should be on the front side
  - ii. Make sure not to get wire pinched or caught in the vent rim while installing.

### Step 3 - Insulation

#### [Youtube Video](#)

One person minimum

**Warning:** Gloves, safety glasses, and an N95 mask are recommended to reduce contact with spray adhesive.

- c. Tools
  - i. Scissors high quality
  - ii. Safety glasses
  - iii. N95 mask
  - iv. Nitrite gloves (recommended)
- d. Hardware
  - i. Spray Adhesive - provided by the customer
  - ii. 3M Thinsulate Insulation or equivalent - provided by the customer
  - iii. Covering for seats - provided by the customer
- e. Procedure
  - i. Cover up front seats with trash bags or purpose-made covers
  - ii. Cut pieces of insulation to fit the main exposed metal panels of the van
    - 1. Make sure not to place insulation on high points where rails and panels attach
  - iii. Spray adhesive on the insulation and then place it in the final location
    - 1. Check to see that it's attached before attacking away support
  - iv. Add chucks/scraps of insulation to any cavity spaces that are accessible
- f. Tips and tricks
  - i. Use a piece of scrap cardboard to catch overspray

### Step 4 - Sanding kit components

#### [Youtube Video](#)

One person minimum

Two recommended

**Warning:** N95 masks, safety glasses, and gloves are required.

- g. Tools
  - i. Random Orbit sander
  - ii. Oscillating Tool
- h. Hardware
  - i. Sanding pads
  - ii. Large Cardboard pad or equivalent
  - iii. Sanding spindles for spindle sander
- i. Tips and tricks
  - i. Get a helper to assist in moving the frames to avoid cracking
  - ii. Save frames until finished with sanding/assembly
    - 1. Confirms you have all the necessary parts

### Step 5 - Floor Assembly

[Youtube Video](#)

[Floor Trim Install](#)

Two people recommended

**Warning:** Floor sheets are heavy and hazardous if they fall on toes or other body parts.

Be careful when handling and where you lean or place floor sections.

- j. Tools
  - i. T30 Torx bit
  - ii. Drill optional
  - iii. Hammer
  - iv. Wood glue - optional but recommended
  - v. Brush and tray - optional, but help with glue application.
  - vi. Safety glasses
  - vii. Gloves
- k. Hardware
  - 1. **Bag 22** Steel Tee Nut kit with ¼-20 screws  
<https://www.mcmaster.com/90598A029/>
  - 2. **Bag 5** Washer fender .375" by 1.5"  
<https://www.mcmaster.com/90313A115/>
  - 3. **Item 38** Main Europly Floor sections by Vantopia
  - 4. **Bag 27** Zinc plated steel insert for wood  
<https://www.mcmaster.com/98965A410/>
- l. Procedure
  - i. Place floor sections **Item 38** upside down on a clean floor
    - 1. Place cardboard beneath to catch any wood glue spillage
  - ii. Hammer in Zinc plated steel inserts **Bag 27**
    - 1. These fasteners are placed in all holes beside the puzzle-fit hole joint
  - iii. Glue the puzzle fit joint with wood glue (optional)
    - 1. Make sure to glue both sides of the joint

- iv. Attach mating sections with puzzle interlocks
  - 1. Some glue will seep out, but this is okay
- v. Place **Bag 5** washers and **Bag 22** tee nuts on puzzle-fit holes
  - 1. Use a lightweight hammer to carefully tap the weld nut into a hole while capturing the washer(don't overdo it with the hammer just enough to seat the weld nut)
  - 2. It will be a pretty tight fit, so don't force it to make sure it is properly aligned
- vi. Once all fasteners are in, have a helper assist in flipping the floor
- vii. Once flipped, screw in **Bag 22** fasteners into the puzzle-fit holes
  - 1. This will level out the floor joint while the glue sets up
- viii. Allow the glue to set for 2hrs
- ix. Repeat the same procedure for the other pair of floor panels

## Step 6 - Floor Install

[Youtube Video](#) Install starts at 3:30

Two person minimum

**Warning:** Floor sheets are heavy and hazardous if they fall on toes or other body parts. Be careful when handling and where you lean or place floor sections.

### m. Tools

- i. 5mm Allen key
- ii.  $\frac{3}{8}$  Allen wrench
- iii. Hammer
- iv. Chamfer bit
- v. 3/16 drill bit
- vi. Philips bit
- vii. Center punch - optional
- viii. Measuring tape
- ix. Saw for metal - hacksaw or power saw optional
- x. Safety glasses
- xi. Gloves

### n. Hardware

- i. **Bag 18** M8 by 45mm flanged bolts  
<https://www.mcmaster.com/97654A232/>
  - 1. Need 14 - Transit Extended
- ii. **Item 30** Smooth threshold <https://www.mcmaster.com/8422A21/>
  - 1. Need one piece
- iii. **Item 31** Aluminum Angle 1" by 1" by .0625"
  - 1. 1 8ft piece
- iv. **Item 32** Anodized Aluminum flat bar 1.5" by .125" by 6ft
  - 1. 1-5ft piece

- v. **Item 33** Anodized Aluminum Angle .75" by 75" by .0625" - 8ft
  - 1. 1-8ft piece
- vi. **Item 39** Main Floor sections Foam insulation by Vantopia
  - 1. Need 4
- vii. **Item 38** Main Europly Floor sections by Vantopia
  - 1. Need 4
- viii. **Bag 14** Wood screws
  - 1. Need 25
- ix. **Bag 40** Ford Transit euro ply floor blocks
  - 1. Need 14
- x. **Bag 19** 7/16 by 3 inch black oxide cap screws  
<https://www.mcmaster.com/91251A005/>
  - 1. Need 7
- xi. **Bag 54** 7/16 stainless steel washers <https://www.mcmaster.com/92141A032/>
  - 1. Need 25
- xii. **Bag 14** [Wood Screws https://www.mcmaster.com/90294A194/](https://www.mcmaster.com/90294A194/)
- o. Procedure
  - i. Place **Item 39** Foam floor sections in the van
    - 1. Use the puzzle fit to attach these items after placed
  - ii. Place glued floor pairs **Item 38**
  - iii. Screw in 7/16 fasteners **Bag 19** at mounting block locations using  $\frac{3}{8}$  Allen wrench.
    - 1. Use four washers **Bag 54** per bolt
  - iv. Place blocks over these fasteners and secure with flanged bolts **Bag 18**
    - 1. Tighten 7/16 fasteners after securing these blocks
  - v. Mount Anodized flat bar **Item 32** after cutting to length over division between floor pairs
    - 1. Use wood screws **Bag 14** along with drill bit and chamfer bit to secure this flat bar (5 screws per side is sufficient)
    - 2. Practice procedure on scrap bar from the length cut
  - vi. Mount smooth threshold **Item 30**
    - 1. Use **Bag 14** screws
    - 2. Should fit without trimming
  - vii. Mount rear trim piece **Item 31**
    - 1. Use the same technique and wood screws as the flat bar attachment
  - viii. Mount side door trim piece **item 33**
    - 1. Use the same technique and wood screws as the flat bar attachment
- p. Tips and Tricks - Be careful that the inserts are correctly lined up with the holes while being hammered in. Use hot water to clean up any excess glue.

## Step 7 - Wall and division strip Install

[YouTube Video](#)

One person possible

Two people recommended

**Warning:** Safety glasses and highly recommended. Dust from the wall panels or cut chips from the wall panel division may harm your eyes.

- q. Tools
  - i. Hammer
  - ii. Drill with a .25" bit to remove clips
  - iii. An oscillating tool with straight cut bit
- r. Hardware
  - i. **Item 24** Wall panel division Strips 8ft by Vantopia
    - 1. Need 6 8ft pieces -
  - ii. **Bag 23** Body Clips - by Vantopia
    - 1. Need 55 clips
  - iii. **Item 41** Wall beadboard by Vantopia
    - 1. Need 12 panels
- s. Procedure
  - i. Start by placing lower wall panels on the driver's side **Item 41**
    - 1. Use clips **Bag 23** to secure the panel to the wall using a hammer to depress clip plungers
    - 2. Get measurements of vertical division strip **Item 24** length
    - 3. Cut the vertical division strip using an oscillating tool (make sure to chamfer the top edge to mate against the horizontal division strip)
      - a. Slide this division strip between the two bottom panels
    - 4. Measure and cut to length horizontal division strips
      - a. These strips can be straight cut no need for chamfers
      - b. Press this strip onto the top edge of the previously placed lower wall panels
  - ii. Place the rear lower wall panels **Item 41** into the division strip
    - 1. Measure and cut to length the vertical division strip between the two lower wall panels
    - 2. Press this strip onto the side of the central wall panel
  - iii. Place the front lower wall panel **Item 41** into the horizontal division strip
    - 1. Once inserted into the horizontal division strip, slide the panel back towards the rear center wall panel
    - 2. Work the panel into the vertical division strip
      - a. Use a shoehorn technique using a piece of scrap division strip
  - iv. Repeat the same procedure on top wall panels
  - v. Repeat the same procedure on passenger side wall panels
- t. Tips and Tricks
  - i. Make sure to line up panel edges before placing all body clips
    - 1. The panels can be slipped forwards or backward as needed

## Step 8 - Rail Install

One person possible

Two people recommended

[YouTube Video](#)

**Warning:** Be careful not to cross-thread the threaded mounting points in your Transit. Try to hand-tighten the bolts first to help make sure they are mounting correctly.

- u. Tools
  - i. Drill optional
  - ii. 5mm Allen Key
- v. Hardware
  - i. **Item 34** 3060 Rail Extrusion by 8ft predrilled
    - 1. Need 2 (drivers and passenger side cuts)
  - ii. **Item 35** 3060 Rail Extrusion by 5ft predrilled
    - 1. Need 1
  - iii. **Bag 53** M8 by 70mm Flat head <https://www.mcmaster.com/92125A304/>
    - 1. Need 11
- w. Procedure
  - i. Place rails **Item 34&35** in general locations in a vehicle where they will be mounted (check for codes marked on the inside of the rail)
    - 1. Hold the rail against wall panels and slide over mating holes
  - ii. Screw in fasteners **Bag 53** by hand and make sure not to cross thread
    - 1. Tighten fasteners until the gap is close behind the rail and the panel is secure
- x. Tips and Tricks
  - i. Use anti-seize on these bolts, and don't force if it feels too tight
  - ii. If you run into trouble with cross-threading, use a round file to widen the hole slightly in the direction of interference

## Step 9 - Ceiling Install and the vent hole cut

[YouTube Video](#)

One person possible

Two people recommended

**Warning:** Safety glasses and highly recommended. Dust from the wall panels or cut chips from the wall panel division may harm your eyes.

- y. Tools
  - i. Drill
  - ii. Phillips bit
  - iii. Hammer
  - iv. .25" drill bit to remove clips
  - v. An oscillating tool with straight cut bit
  - vi. Safety glasses are required. Dust can easily fall into your eyes.
- z. Hardware



- i. **Item 24** Wall panel division Strips 8ft by Vantopia
  - 1. Need 3 - 8ft pieces
- ii. **Bag 23** Body Clips - by Vantopia
  - 1. Need 20
- iii. **Item 42** Ceiling beadboard by Vantopia
  - 1. Need 4
- iv. **Special part** Transit header
  - 1. Located on **Item 36 sheet D8** top edge away from sheet label  
(need to cut out and sand before installation)
- v. **Bag 28** Wood screws for header strip  
<https://www.mcmaster.com/90294A247/>
  - 1. Need 12
- vi. **12ft Extension cord** - provided by the customer
  - 1. Need 1
- vii. **12VDC Can lights** - provided by the customer
  - 1. Need 8
- aa. Procedure for the vent hole cut
  - i. Measure the location of the vent hole cut into the vehicle from a known reference point that is both on the vehicle and ceiling panel **Item 42**(typically clip holes make good reference points)
    - 1. Measure from this reference point on the ceiling panel to the center point of the vent
    - 2. Place vent template over this center point
    - 3. Adjust the vent template to be square to the ceiling panel
    - 4. Mark outline of vent template onto ceiling panel
  - ii. Cut a hole for the vent in the ceiling panel using a jig saw or supplied oscillating tool.
    - 1. Make sure to place it on a clean, smooth surface
    - 2. Make sure not to cut into the subsurface when cutting
  - iii. Repeat this procedure for any other vent cuts required
- bb. Procedure for ceiling panel installation (after all necessary vent holes have been cut)
  - i. Start by pressing the can lights into the four ceiling panels **Item 42**
    - 1. Make sure to unbundle the wires
  - ii. Begin with the front passenger side ceiling panel
    - 1. Place the panel over mating holes and make sure the front edge slips above the Ford cabin trim piece.
    - 2. Make sure to drape all light wires toward the driver's side before securing.
    - 3. Secure panel with body clips **Bag 23**
  - iii. Repeat procedure for front drivers side panel
    - 1. Make sure to drape the passenger side can light wires completely over the driver's side panel and bundle with the driver's side can light wires.

- iv. Measure and cut division strips between the two installed front ceiling panels
  - 1. Chamfer end of division strip **Item 24** near the middle of the vehicle
- v. Slide division strip into the gap between the two ceiling panels starting at the rear end of panels (this procedure is modified slightly if the forward vent is going to be installed)
- vi. Measure and cut a division strip for the rear edge of the two ceiling panels
  - 1. Press this division strip onto the rear edge of the two panels
- vii. Place the rear passenger side ceiling panel using the same technique as the front panels
  - 1. Bend the panel slightly while installing to clear the wire harness at the rear of the vehicle
  - 2. Slide panel into the division strip already placed at the rear edge of the front ceiling panels
  - 3. Make sure to drape wires toward the driver's side of the vehicle, similar to the front ceiling panels
- viii. Repeat procedure for rear driver's side ceiling panel
- ix. Measure division strips between the two rear ceiling panels and cut to length (this will be a two-part division strip if a vent is installed)
  - 1. Slide division strips into the gap between rear ceiling panels starting from the vent hole
- cc. Tips and Tricks - Line up one hole to clip in, and the rest should match up. Make sure to cut the vent hole before the installation.

## **Step 10 - Main module assembly and prep bed mech**

[Raised Bed Assembly](#)

[Dinette Bed Assembly](#)

1 Person possible

2 People recommended

**Warning:** Safety glasses and gloves are recommended.

### dd. Tools

- i. Drill
- ii. T30 Torx bit
- iii. Needle nose pliers
- iv. Philips bits

### ee. Hardware

- i. **Bag 1** M6 by 45mm flat head screw  
<https://www.mcmaster.com/92125A250/>
  - 1. Need 245
- ii. **Bag 2** M6 Rectangle screw by Vantopia
  - 1. Need 245

- iii. **Bag 57** Clevis pin 45mm with E clips  
<https://www.mcmaster.com/92735A122/>
  - 1. Need 6
- iv. **Bag 5** Washer .375" by 1.5" Fender  
<https://www.mcmaster.com/90313A115/>
  - 1. Need 10
- v. **Bag 6** Washer .375" by 2" Fender <https://www.mcmaster.com/90313A116/>
  - 1. Need 2
- vi. **Bag 7** Nylon spacer .375 ID .75" OD by 1.25" long  
<https://www.mcmaster.com/94639A863/>
  - 1. Need 6
- vii. **Bag 8** .375" by .875" washers <https://www.mcmaster.com/92141A031/>
  - 1. Need 20
- viii. **Item 36** Main Birch .5" thick sheets by Vantopia
  - 1. Need 8
- ix. **Item 37** Main Birch .75" thick sheets by Vantopia
  - 1. Need 7
- ff. Procedure for Closet Module - Refer to referenced youtube videos
- gg. Procedure for Island Module - Refer to referenced youtube videos
- hh. Procedure for Combo Module - Refer to referenced youtube videos
- ii. Procedure for Bed Module - Refer to referenced youtube videos
- jj. Procedure for Spice Rack Module - Refer to referenced youtube videos
- kk. Tips and Tricks
  - i. Ensure that the tabs are appropriately sanded and that there is no debris in the pockets.
  - ii. It's best to work in an area with cardboard or butcher paper laid out to avoid scratches.

## **Step 11 - Installation of finished modules**

### [YouTube](#)

2 People recommended

#### II. Tools

- i. Drill optional
- ii. 5mm Allen key
- iii. 4mm Allen key

#### mm. Hardware

- i. **Bag 3** [M8 by 90mm Button head screw](https://www.mcmaster.com/92095A336/)  
<https://www.mcmaster.com/92095A336/>
  - 1. Need 13
- ii. **Bag 5** [Washer .375" by 1.5" fender](https://www.mcmaster.com/90313A115/)  
<https://www.mcmaster.com/90313A115/>
  - 1. Need 15
- iii. **Bag 15** [T slot frame nut](https://www.mcmaster.com/5537T67/) <https://www.mcmaster.com/5537T67/>
  - 1. Need 28

- iv. **Bag 10** [M6 by 30mm button head screws](https://www.mcmaster.com/92095A244/)  
  - 1. Need 28
- v. **Bag 11** [MM6 washers](https://www.mcmaster.com/91116A150/)  
  - 1. Need 56
- vi. **Bag 53** M8 by 70mm screws flat head  
<https://www.mcmaster.com/92125A304/>  
  - 1. Need 2

**Step 12** - Finishing details - Bamboo faces, countertops, bamboo locks, drawers, outlet covers, fuse panels, and tray tables

[Youtube](#)

nn. Tools

- i. Drill
- ii. Philips bit
- iii. Needle nose pliers
- iv. Bamboo oil

oo. Hardware

- i. **Item 26** Drawer slides 16"  
  - 1. Need 1 pair
- ii. **Item 25** Drawer slides 20"  
  - 1. Need 2 pairs
- iii. **Bag 12** Wooden dowels .5" by 1.5" long  
  - 1. Need 40
- iv. **Bag 29** Soft close hinges by Vantopia  
  - 1. Need 32
- v. **Bag 4** 45mm Clevis pins with E clips  
  - 1. Need 27
- vi. **Bag 8** Washers .375 by .875"  
  - 1. Need 200
- vii. **Bag 16** M8 eye rings  
  - 1. Need 4
- viii. **Bag 9** M6 by 70mm flat head screws  
  - 1. Need 8
- ix. **Bag 20** M6 by 20mm Flat head  
  - 1. Need 4
- x. **Bag 2** M6 Rectangle screw by Vantopia  
  - 1. Need 4
- xi. **Item 43** Bamboo Countertops/tray tables by Vantopia with brass inserts installed  
  - 1. Need 3
- xii. **Item 44** Bamboo Cabinet/Drawer Faces by Vantopia  
  - 1. Need 12

- xiii. **Item 45** Bamboo Rotary Latches by Vantopia
  - 1. Need 3
- xiv. **Item 46** Bamboo Swing Latches by Vantopia
  - 1. Need 12